	Application No.	Applicant(s)
Notice of Allowability	10/825,188	ARIMILLI ET AL.
	Examiner	Art Unit	
	Arpan P. Savla	2185	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the instant application filed on 4/15/04*.

2. ☒ The allowed claim(s) is/are *1-20*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None of the:

       1. ☐ Certified copies of the priority documents have been received.

       2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

       3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the

          International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

       1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of

       Paper No./Mail Date _____ .

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

DETAILED ACTION

Examiner's Amendment

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Brian Russell on May 3, 2006.

The application has been amended as follows:

- o Amend the **title** as follows:

  - o Replace the current title of with --System And Method To Stall Dispatch Of Gathered Store Operations In A Store Queue Using A Timer--

- o Amend the **specification** as follows:

  - o Paragraph 0001, Line 2: Insert --10/825,189-- before "(Docket No."

- o Amend **claim 1** as follows:

  - o Line 7: Remove "the"

- o Amend **claim 3** as follows:

  - o Line 4: Insert --entry-- before "contains"

- o Amend **claim 4** as follows:

  - o Line 2: Replace "determining" with --determine--

- o Amend **claim 5** as follows:

    o   Line 3: Replace "increment" with --increments--

o Amend **claim 10** as follows:

    o   Line 4: Insert --entry-- before "contains"

o Amend **claim 11** as follows:

    o   Line 2: Replace "determining" with --determine--

o Amend **claim 12** as follows:

    o   Line 3: Replace "increment" with --increments--

o Amend **claim 14** as follows:

    o   Line 3: Remove "to the RC dispatch logic"

o Amend **claim 18** as follows:

    o   Line 4: Insert --entry-- before "contains"

o Amend **claim 19** as follows:

    o   Line 2: Replace "determining" with --determine--

o Amend **claim 20** as follows:

    o   Line 4: Replace "increment" with --increments--

Allowable Subject Matter

Claims 1-20 are allowed.

The following is an examiner's statement of reasons for allowance: the prior art of

record fails to disclose the combination including the limitations of:

(**Claim 1**) "...and when a second processor-issued store operation gathers to the

entry before said pre-established threshold for elapsed time is reached: holding off

tagging said entry as eligible for dispatch; and restarting said timer to track elapsed time

from a completion of said gather of the second processor-issued store operation."

(Claim 7) "...and a plurality of timers and an associated timer logic, said plurality

of timers being each assigned to an entry and utilized for tracking elapsed time since a

last gather of a store operation to that entry..."

(Claim 15) "...a plurality of timers and an associated timer logic, said plurality of

timers being each assigned to an entry and utilized for tracking elapsed time since a last

gather of a store operation to that entry..."

Any comments considered necessary by applicant must be submitted no later

than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on

Statement of Reasons for Allowance."

As dependent **claims 2-6, 8-14, and 16-20** depend from an allowable base

claim; they are at least allowable for the same reasons as noted above.

The following prior art is deemed most closely related to the instant application

and is therefore made of record:

1.   IBM Technical Disclosure Bulletin (Pekkala et al.) discloses a method for

combing various store instructions to the same doubleword address into a single cache

access. However, Pekkala neither anticipates nor renders obvious a plurality of timers

and an associated timer logic, the plurality of timers being each assigned to an entry

and utilized for tracking elapsed time since a last gather of a store operation to that entry.

2.   U.S. Patent 5,894,569 (Arimilli et al.) discloses a method and system for back-end gathering of store instructions using a within a front-end queue and a back-end queue. In response to a series of determination steps, two store instructions are combined into one bus transfer. However, Arimilli-569 neither anticipates nor renders obvious activating a timer to track elapsed time from a completion of the gathering step.

3.   U.S. Patent 5,940,611 (Arimilli et al.) discloses a method and system for front-end gathering of store instructions using a within a front-end queue and a back-end queue. In response to a series of determination steps, the store instruction in the subsequent second entry is collapsed into the store instruction in the first entry. However, Arimilli-611 neither anticipates nor renders obvious a plurality of timers and an associated timer logic, the plurality of timers being each assigned to an entry and utilized for tracking elapsed time since a last gather of a store operation to that entry.

4.   U.S. Patent 5,956,503 (Arimilli et al.) discloses a method and system for front-end and back-end gathering of store instructions a within a front-end queue and a back-end queue. In response to a series of determination steps, two store instructions are combined into one bus transfer. However, Arimilli-503 neither anticipates nor renders obvious a plurality of timers and an associated timer logic, the plurality of timers being each assigned to an entry and utilized for tracking elapsed time since a last gather of a store operation to that entry.

5.   U.S. Patent 6,101,568 (Richardson et al.) discloses a write-combining bus

interface unit having control logic that prevents a deadlock situation. The bus interface

unit includes a counter that keeps track of the number of write-combine entries present

in the transaction buffer. Whenever the counter reaches a predetermined threshold, all

write-combine entries in the transaction buffer are marked for immediate issuance to the

system bus. It should be noted that "write-combine" is analogous to "gather." However,

Richardson neither anticipates nor renders obvious that when a second processor-

issued store operation gathers to the entry before the pre-established threshold for

elapsed time is reached: holding off tagging the entry as eligible for dispatch, and

restarting the timer to track elapsed time from a completion of the gather of the second

processor-issued store operation.

6.   U.S. Patent 5,404,550 (Horst et al.) discloses a watchdog timer in each cell to

generate a signal indicating that the queue has not changed within a predetermined

number of clocks. However, Richardson neither anticipates nor renders obvious that

when a second processor-issued store operation gathers to the entry before the pre-

established threshold for elapsed time is reached: holding off tagging the entry as

eligible for dispatch, and restarting the timer to track elapsed time from a completion of

the gather of the second processor-issued store operation.

7.   U.S. Patent 6,247,114 (Trull et al.) discloses a microprocessor having an

instruction queue capable of out-of-order instruction dispatch and rapidly selecting one

or more oldest eligible entries.

8.   The prior art of record neither anticipates nor renders obvious the recited

combinations of limitations within the instant application.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Arpan P. Savla whose telephone number is (571) 272-

1077. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Donald Sparks can be reached on (571) 272-4201. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).
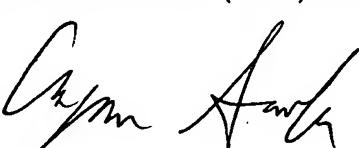
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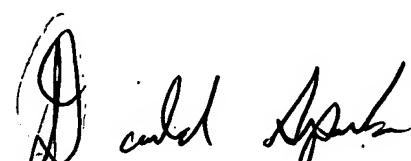
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